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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,414	06/21/2001	Rosa Maria Gomez	60011320-1	5748

7590

07/18/2002

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

MOUTTET, BLAISE L

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 07/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,414

Applicant(s)

GOMEZ ET AL.

Examiner

Blaise L Mouttet

Art Unit

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-- The MAILING DATE of this communication appears in the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The corrected or substitute drawings were received on October 19, 2001. These drawings are acceptable.

Specification

2. The disclosure is objected to because of the following informalities:

The specification should be amended to refer to the US patent application of co-pending applications number rather than the attorney docket number as on page 9, lines 22-26 (if this information is not yet available an amendment to the specification should be provided as soon as the information becomes available).

Appropriate correction is required.

Claim Objections

3. Claim 23 is objected to because in line 2 "said step of plotting" should read --said step of printing-- in accordance with the previously recited step.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4, 6-9, 12, 14, 16, 17, 19-21 and 24 are rejected under 35

U.S.C. 102(b) as being anticipated by Takada et al. US 5,596,353.

Takada et al. discloses, regarding claim 1, a method of servicing a pen (1001 as shown in figure 1) in an inkjet printing device (figure 1), said method comprising:

receiving a print job (via the computer or image reader as described in column 17, lines 26-31);

determining a level of print quality required for the print job (the level of print quality corresponds to the reference density as described in column 12, lines 58-63);

determining the operating characteristics of a plurality of nozzles to be used to print the print job (this is performed by the image density reading means 1014 which reads the image density of the image printed by the pen nozzles to determine if an appropriate density is being printed by the nozzles as described in column 12, lines 51-67); and

printing the print job when the print density of the nozzles are corrected to be sufficient to print the desired quality level (column 12, lines 51-67, column 13, lines 43-46).

Takada et al. discloses, regarding claim 14, a processor (1101) and an ink drop detector (1014), as shown in figure 1, for carrying out the method of claim 1.

Regarding claims 3, 4, 16 and 17, the reference print quality level is subject to setting a reference printmode (the printmode is being interpreted as the reference

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density which is changed by the user in accordance with a desired image as described in column 12, lines 58-63).

Regarding claim 6, see column 13, lines 43-46 in which Takada et al. discloses testing the density produced from the drops ejected by plural nozzles.

Regarding claim 7, 8, 9, 12, 19, 20, 21 and 24, a maintenance procedure comprising capping, purging and wiping the nozzles is carried out to repair any non-functioning nozzles when the inkjet printer is idle (column 22, lines 13-29).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 2, 5, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al. US 5,596,353 in view of Pocket Guide to Digital Printing by Frank Cost.

Takada et al. fails to disclose that the print quality level is determined based on a resolution of the print job or an amount of media area required for the print job.

Cost discloses in pages 16-18 that resolution of a print job and the image size of a print job (i.e. if the printed matter is intended for a billboard or large format poster) are key indicators of print quality.

It would have been obvious for a person of ordinary skill in the art at the time of the invention to determine the print quality level taught by Takada et al. from the resolution and media area of the print job as suggested by Cost.

The motivation for doing so would have been to achieve a print quality appropriate for the visual threshold of the user given the type of print job as taught by Cost.

6. Claims 10 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al. US 5,596,353 in view of Gast et al. US 5,583,547.

Takada et al. discloses performing a wiping operation for the nozzles (column 22, line 21).

Takada et al. fails to disclose performing the wiping procedure in the event that a predetermined number of ink drops per nozzle has been exceeded.

Gast et al. teaches performing a wiping procedure for inkjet nozzles in the event that a predetermined number of ink drops per nozzle has been exceeded (column 4, line 63 - column 5, line 4).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to performing the wiping procedure of Takada et al. in the event that a predetermined number of ink drops per nozzle has been exceeded as taught by Gast et al.

The motivation for doing so would have been in order to automatically determine appropriate cleaning intervals without user intervention as taught by column 2, lines 2-5 of Gast et al.

7. Claims 11 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al. US 5,596,353 in view of Fukazawa et al. US 5,398,054.

Takada et al. discloses performing a wiping operation for the nozzles (column 22, line 21).

Takada et al. fails to disclose performing the wiping procedure in the event that the inkjet printing device remains idle for a period of time.

Fukazawa et al. teaches performing a wiping procedure for inkjet nozzles in the event that the inkjet printing device remains idle for a period of time (column 6, line 60 - column 7, line 8, claim 2).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to performing the wiping procedure of Takada et al. in the event that the inkjet printing device remains idle for a period of time as taught by Fukazawa et al.

The motivation for doing so would have been in order to automatically determine appropriate cleaning intervals without user intervention as taught by column 3, lines 47-58 of Fukazawa et al.

8. Claims 13 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al. US 5,596,353 in view of Stewart et al. US 5,455,608.

Takada et al. discloses performing a sequence of different servicing procedures (i.e. capping, spitting, wiping as disclosed in column 22, lines 13-29).

Takada et al. fails to disclose that one of the procedures is repeatedly performed based on recovery effectiveness.

Stewart et al. discloses repeated spitting of inkjet nozzles based on recovery effectiveness (see abstract).

It would have been obvious to a person of ordinary skill in the art to repeatedly perform the spitting procedure of Takada et al. as taught by Stewart et al.

The motivation for doing so would have been to provide adequate recovery of all the nozzles as taught by column 1, lines 46-51 of Stewart et al.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Weber et al. US 4,328,504 discloses a detection system for individual nozzle faults in an inkjet printer based on optical detection of ink drops ejected on a print medium.

Ebinuma et al. US 4,977,459 discloses comparing an image signal with an optical detection of ink drops on a print medium indicative of the nozzle status in order to select an appropriate maintenance response.

Petschik et al. US 5,353,387 discloses that print quality is directly related to resolution in inkjet printers (column 1, lines 31-37).

Osbourne US 5,434,605 discloses determining cleaning procedures for inkjet nozzles based upon a drop fault detection utilizing optical ink drop detection.

Igval US 6,045,206 discloses determining a maintenance procedure for an inkjet printer based upon user profiles.

Xie et al. US 6,179,403 discloses determining a maintenance interval for an inkjet printer based upon the image type.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Blaise Mouttet whose telephone number is

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(703) 305-3007. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow, Jr. Art Unit 2853, can be reached on (703) 308-3126. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Blaise Mouttet July 12, 2002

Bm 7/12/02


John Barlow
Supervisory Patent Examiner
Technology Center 2800